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U.S. Army Aviation Epidemiology Data Register: Rates of Exceptions to Policy Granted to Medically Disqualified U.S. Army Aviator Students from FY 1986 to FY 1990

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The U.S. Army Aviation Epidemiology Data Register and U.S. Army Aviation Center flight training school records were queried to determine the medical diagnosis, rank, and service component of those who entered aviator training with an exception to policy. The study period was fiscal years 1986 to 1990, five years. The exception to policy rates granted to medically disqualified U.S. Army aviator students before or upon entry into flight training is unknown. Sample case histories were discussed.

The overall exception to policy rate was 1.45 exceptions to policy per 100 aviator student starts per fiscal year. Commissioned officer students had a significantly better chance of being granted an exception to policy (relative risk(Katz)=2.24, CI0.95=1.54,3.26). No component of service had an advantage over the others for being granted an exception to policy. Exceptions to policy most often were granted for refractive error, hearing loss, anthropometry, and orthopedic conditions of the extremities.

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Background

Military relevance

Normally, U.S. Army aviator students will not enter flight training if they are medically disqualified. However, there are circumstances in which the U.S. Army Aviation Branch desires to accept the risk a medical disqualification might impart and permit the medically disqualified student to enter training. In the U.S. Army, the administrative method used to grant a waiver for the medical disqualification is called an "exception to policy (ETP)". ETP rates have not been published. The U.S. Army Aviation Epidemiology Data Register (AEDR) was queried for a 5-year period to determine the ETP rates and what medical conditions ETPs were granted for.

Exception to policy process

U.S. Army aviator candidates will not enter flight training with a medical disqualification. They are not eligible for waivers for the medical disqualification. Entrance into U.S. Army aviator training programs with a medical disqualification requires an ETP issued by aeromedical waiver authorities at the Department of the Army or National Guard Bureau. ETPs are granted only to commissioned officer candidates by regulation, though historically, many are granted to warrant officer candidates. ETPs are granted only to exceptional officers with minor, static medical disqualifications. ETPs are not likely to be recommended for disqualifying conditions that are dynamic and may progress with time, are prone to recurrence or exacerbation with military and/or aviation duties, or affect aviation safety and operations. To request an ETP, the applicant requests an aeromedical summary through the local flight surgeon to Commander, U.S. Army Aeromedical Center (USAAMC), Fort Rucker, Alabama, to the appropriate waiver authority. The Commander, USAAMC, makes a medical recommendation to the waiver authority based on the medical condition. The waiver authorities at the U.S. Army Personnel Center (active duty and U.S. Army Reserve) and National Guard Bureau (U.S. Army National Guard) either grant or deny the ETP based on the medical recommendation and the needs of the Army (Department of the Army, 1995).

U.S. Army Aviation Epidemiology Data Register

Data was obtained from the AEDR. The AEDR is a family of databases storing medical history and physical parameters of U.S. Army student and trained aviators. One component is a flying duty medical examination (FDME) database. All U.S. Army flight training applicants and trained aviators are required to submit a FDME upon application, and then annually within 90 days of the end of their next birth month (Department of the Army, 1995). Another component is the waiver and suspension file (WSF), a mortality and morbidity index of flight physical disqualifications, casualty reports, and aeromedical board outcomes. The major diagnoses, recommendations, and outcomes of exceptions to policy cases are found in the WSF. The WSF references a medical document archive, containing the details of WSF cases.

Exception to policy case histories

An applicant to Army aviator training had a repaired retinal detachment with resultant peripheral field of vision defect. Both conditions are disqualifying for Army aviation service. The applicant requested an ETP on several occasions. USAAMC did not recommend an ETP since the natural history of the condition was uncertain and a visual field defect was present. Despite other qualities that would make the applicant a truly exceptional officer, such as significant achievements at a military academy, the waiver authority denied the ETP. The applicant was lost to followup.

A male applicant to Army aviator training had a hematocrit ranging from 37 to 39 percent on multiple measurements. The standard is that a hematocrit is disqualifying if it is below 40 percent. A diagnosis of mild normochromic, normocytic anemia due to beta thalassemia minor was made following an evaluation. The applicant requested an exception to policy. USAAMC recommended an exception to policy since the condition was minor, stable, and not subject to exacerbation in the operational aviation environment. The waiver authority granted the exception to policy. He entered flight training. Followup examination showed the hematocrit remained stable. After a series of similar cases, USAAMC changed the regulation so that minor deviations of hematocrit due to beta thalassemia minor were no longer disqualifying for Army aviation service.

An Army aviator student in the preflight phase of training was noted to have significant deviations in visual acuities and refractions by comparing serial flying duty medical examinations. Suspecting devious behavior, USAAMC called the student in on short notice for a repeat ocular examination and found hard contact lens "skid marks" on the corneas. The student confessed to using hard contact lenses to modify the shape of his cornea. After not wearing the lenses for 2 weeks, an ocular examination revealed the student had multiple ocular disqualifications due to compound myopic astigmatism. A medical elimination from flight training was initiated, but the student requested an ETP. A panel of aviators and aerospace medicine specialists advising the Commander, USAAMC, did not recommend an ETP. The basis of the recommendation was that the medical condition was likely to progress, and the student had shown poor ethical conduct and judgment in a deliberate attempt to conceal and modify an underlying medical disqualifications. USAAMC did not recommend an ETP. However, the student was working in the U.S. Army Aviation Branch headquarters. Numerous staff were impressed with the student's officership. The aviation school recommended an ETP. The waiver authorities took all recommendations into account and granted an ETP. The student continued flight training. Followup examinations showed the myopia was progressing, but still correctable to 20/20 visual acuity with glasses.

Method

The AEDR WSF was queried to extract the case histories of applicant and student aviators who were granted an ETP during the period 1 October 1986 to 30 September 1990, five fiscal years. Only those who started Army flight training were retained for analysis. Additional history was obtained for each subject from the medical document archive linked by Social Security number to

the WSF cases. The medical condition, rank, and service component were retained. Each student's entry into flight school was verified by searching U.S. Army Aviation Center (USAAVNC) school records. The number of student starts, their rank, and service component were extracted from USAAVNC school records for each fiscal year of the study. Service component data was not available for student starts in fiscal year 1986. The Relative Risk with 95 percent confidence intervals was calculated using the method of Katz (Kahn and Sempos, 1989).

Results

Table 1 shows the granted ETPs stratified by medical diagnosis and study fiscal year. Among these 112 ETPs, all by definition did not meet Class 1 (Warrant officer) or Class 1A (Commissioned officer) aviator training entry standards. However, 72 of 112 (64.3 percent) also did not meet Class 2, trained Army aviator retention medical standards.

Table 1.
Exception to policy stratified by medical diagnosis and fiscal year.

Medical diagnosis	FY 86	FY 87	FY 88	FY 89	FY 90	N
Refractive error	3	6	9	4	5	27
Hearing	4	8	3	2	4	21
Anthropometrics	0	14	4	1	0	19
Orthopedic, extremities	0	1	1	5	3	10
Anemia	0	2	0	5	0	7
Abnormal EKG	0	0	0	3	1	4
Allergic rhinitis	0	0	2	1	0	3
Kidney stone	0	0	1	2	0	3
Eye muscle imbalance	0	0	0	2	1	3
Head injury	1	1	0	0	0	2
Other ocular disease	0	1	0	1	0	2
Orthopedic, spine	0	0	0	2	0	2
Meckel's diverticulum	0	1	1	0	0	2
Color vision	0	1	0	0	0	1
Thyroid disease	0	1	0	0	0	1
Sleepwalking	0	0	1	0	0	1
Drug abuse	0	0	1	0	0	1
Depth perception	0	0	0	1	0	1
Decompression sickness	0	0	0	1	0	1
Gynecologic	0	0	0	0	1	1
Total	8	36	23	30	15	112

There were 1.45 ETPs granted per 100 student starts per year. Table 2 shows the ETP rates per 100 student starts stratified by rank, warrant officer versus commissioned officer, and fiscal year. Commissioned officers, as expected based on the regulations, had a significantly better chance of being granted an ETP (Relative $risk_{(Katz)}$=2.24, $CI_{0.95}$=1.54,3.26). Table 3 shows the ETP rates per 100 student starts stratified by component of service, active duty versus Army Reserve versus Army National Guard, and fiscal year. No service component had a statistical advantage over the others in the chance of getting an ETP (RA/ARNG, Relative $risk_{(Katz)}$=1.16, $CI_{0.95}$=0.69,1.95; USAR/ARNG, Relative $risk_{(Katz)}$=1.96, $CI_{0.95}$=0.95,4.07; USAR/RA, Relative $risk_{(Katz)}$=1.69, $CI_{0.95}$=0.93,3.09)

Table 2.

Exception to policy rates per 100 student starts stratified by rank and fiscal year.

Rank	FY86	FY87	FY88	FY89	FY90	N
Warrant officer (WO) starts	711	917	990	1045	962	4625
WO exceptions to policy	1	10	14	15	5	45
ETP rate per 100 WO starts	0.14	1.09	1.41	1.44	0.52	0.97
Commissioned officer (CO) starts	882	595	474	508	616	3075
CO exceptions to policy	7	26	9	15	10	67
ETP rate per 100 CO starts	0.79	4.37	1.90	2.95	1.62	2.18
Total student starts	1593	1512	1464	1553	1578	7700

Table 3.

Exception to policy rates per 100 student starts stratified by service component and fiscal year.

Service component	FY86	FY87	FY88	FY89	FY90	N
Active duty Army (RA) starts	*	1027	1065	1184	1225	4501
RA exceptions to policy	*	24	17	23	11	75
ETP rate per 100 Regular Army	*	2.34	1.60	1.94	0.90	1.67
Army Reserve (USAR) starts	*	180	115	79	51	425
USAR exceptions to policy	*	6	2	3	1	12
ETP rate per 100 USAR starts	*	3.33	1.74	3.80	1.96	2.82
Army National Guard (ARNG) starts	*	305	284	290	302	1181
ARNG exceptions to policy	*	6	4	4	3	17
ETP rate per 100 ARNG starts	*	1.97	1.41	1.38	0.99	1.44
N	*	1512	1464	1553	1578	6107

* Student starts by service component are not available for FY86.

Summary

The overall exception to policy rate was 1.45 exceptions to policy per 100 aviator student starts per fiscal year. Commissioned officer students had a significantly better chance of being granted an exception to policy (Relative $risk_{(Katz)}$=2.24, $CI_{0.95}$=1.54,3.26), consistent with current regulatory guidelines. No component of service had an advantage over the others for being granted an exception to policy. Exceptions to policy were most often granted for refractive error, hearing loss, anthropometry, and orthopedic conditions of the extremities.

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